

磁能灯泡

技术领域

本发明涉及照明器材领域，特别涉及到一种在带贯穿孔的灯体上可以由电场产生的磁能，而激活灯体内荧光粉使之发光照明的磁能灯泡。

背景技术

现有的电源照明灯主要有白炽灯泡和节能灯泡两种，他们都是有一个充气的空腔，在充气的空腔内设置有灯丝，以点燃灯丝发光，使用寿命受到灯丝的限制。如何提高灯泡的使用寿命，灯丝就是最大的障碍。磁能灯利用高频磁能电磁谐振原理，取代了荧光灯电极为主的 LC 串联谐振灯丝、电极预热启动激活荧光粉的发光原理，可以提高荧光灯的发光效率，荧光灯光衰现象几乎可以忽略，发光效率可以提高 20%，灯寿命比原发明的荧光灯提高 16 倍，节能效率达到 35%~45%，灯输入功率可以做到 6W~1500W。

发明内容

本发明的目的在于改变现有技术的不足之处，提供一种使用寿命长的磁能灯泡。其要解决的技术问题，是利用新发明的高频磁能电磁谐振原理，激活磁能灯中的荧光粉使之发光照明，而取代传统带灯丝的灯泡与荧光灯。

本发明的目的是通过以下措施来达到的，它是在一个封闭的充排气空腔灯体上设置有一个以上的贯穿孔，在空腔灯体内涂覆有荧光粉层。

本发明所述灯体上设置有小玻管，小玻管与灯体空腔相通。

本发明所述小玻管延伸到灯体空腔内，小玻管内存放汞。

本发明所述灯体上设置有充排气管，充排气管用来向灯体空腔内充排气。

确认本

本发明所述灯体上设置有一个贯穿孔，贯穿孔设置在灯体的一端。

本发明所述贯穿孔设置在灯体的两端，在灯体的两端各有一个以上贯穿孔。

本发明所述灯体是圆形、扁圆形、长方形、圆柱形、椭圆形、平板形、环形或管柱形。

本发明所述贯穿孔是圆形、扁圆形、长方形或多边形。

本发明所述灯体上设置有一个以上的小玻管。

本发明与现有技术相比结构简单，使用方便，加工容易，成本低，电磁感应效率明显地提高了2~4倍。

附图说明

图1是本发明的磁能灯泡具体实施例结构之一的示意图。

图2是图1的侧视剖面结构示意图。

图3是本发明的磁能灯泡具体实施例结构之二的示意图。

图4是图3的侧视结构示意图。

图5是本发明的磁能灯泡具体实施例结构之三的示意图。

图6是本发明的磁能灯泡磁体从贯穿孔中穿过灯体的结构示意图。

具体实施方式

下面结合附图对本发明作进一步说明。

如图1、图2所示，本发明的磁能灯泡具有一个封闭的充排气空腔灯体1，在灯体1上设置有一个贯穿孔2，在空腔灯体1内涂覆有一层荧光粉3，贯穿孔设置于灯体的一端。在使用时，磁体从贯穿孔2中穿过灯体，利用高频磁能电磁谐振原理使灯泡发光，取代了耗能大的灯丝。

本发明在灯体1上设置有两个小玻管5，小玻管5延伸到灯体1内与灯体空腔相通，在灯体1上设置有充排气管6，小玻管5内存放汞，小玻管5延伸到灯体空腔内；充排气管6用来从空腔灯体内充排气。

如图3、图4所示为本发明的磁能灯泡具体实施例结构之二的示意图，在该实施例结构之二的一个封闭的充排气空腔灯体1，灯体上设置有2个贯穿孔2，在灯体空腔内涂覆有荧光粉，贯穿孔设置于灯体的两端，在灯体的两端各有一个贯穿孔。

如图5所示是本发明的磁能灯泡具体实施例结构之三的示意图。它是一个封闭的充排气空腔灯体1，在灯体上设置有6个贯穿孔2，在灯体空腔内涂覆有荧光粉，贯穿孔设置于灯体的两端，在灯体的两端各有3个贯穿孔。

如图6所示是本发明的磁能灯泡磁体从贯穿孔中穿过灯体的结构示意图。它是一个封闭的充排气空腔灯体1，在灯体上设置有1个贯穿孔2，在灯体空腔内涂覆有荧光粉，磁体4从贯穿孔中穿过灯体，利用高频磁能电磁谐振原理，取代了灯丝。

本发明在使用时，磁体4从贯穿孔2中穿过灯体1，磁能灯利用高频磁能电磁谐振原理取代灯丝，可以提高荧光灯光效，荧光灯光衰现象几乎可以忽略，发光效率可以提高20%，灯寿命较荧光灯提高16倍，节能效率达到35%~45%，灯输入功率可以做到6W~1500W。

本发明的贯穿孔2可以设置在灯体的一端，在灯体的一端有一个以上贯穿孔。贯穿孔也可以设置在灯体的两端，在灯体的两端有一个以上贯穿孔。

本发明磁能灯泡可以是圆形、扁圆形、长方形、圆柱形、椭圆形、平板形、环形、管柱形的，或是异型的；本发明的贯穿孔可以是圆形、扁圆形、长方形，多边形或是异形的。

权 利 要 求

1. 一种磁能灯泡，其特征是：在一个封闭的充排气空腔灯体上设置有一个以上的贯穿孔，在空腔灯体内涂覆有荧光粉层。
2. 根据权利要求 1 所述的磁能灯泡，其特征是：所述灯体上设置有小玻管，小玻管与灯体空腔相通。
3. 根据权利要求 2 所述的磁能灯泡，其特征是：所述小玻管延伸到灯体空腔内。
4. 根据权利要求 1 所述的磁能灯泡，其特征是：所述灯体上设置有充排气管。
5. 根据权利要求 1 所述的磁能灯泡，其特征是：所述灯体上设置有一个贯穿孔，贯穿孔设置在灯体的一端。
6. 根据权利要求 1 所述的磁能灯泡，其特征是：所述贯穿孔设置在灯体的两端，在灯体的两端各有一个以上贯穿孔。
7. 根据权利要求 1 至 6 任一所述的磁能灯泡，其特征是：所述灯体是圆形、扁圆形、长方形、圆柱形、椭圆形、平板形、环形或管柱形。
8. 根据权利要求 1 至 6 任一所述的磁能灯泡，其特征是：所述贯穿孔是圆形、扁圆形、长方形或多边形。
9. 根据权利要求 2 或 3 所述的磁能灯泡，其特征是：所述灯体上设置有一个以上的小玻管。

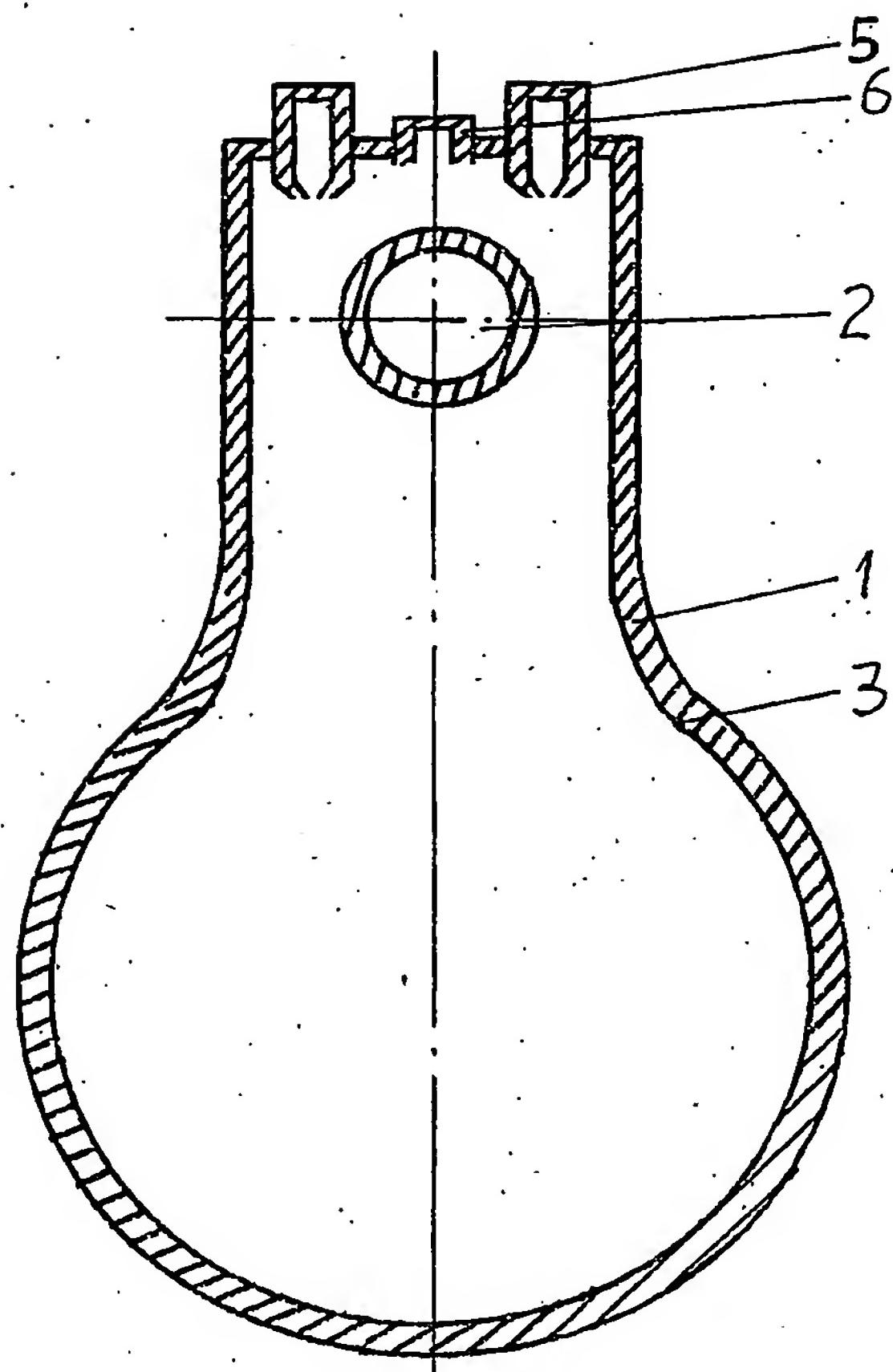


图 1

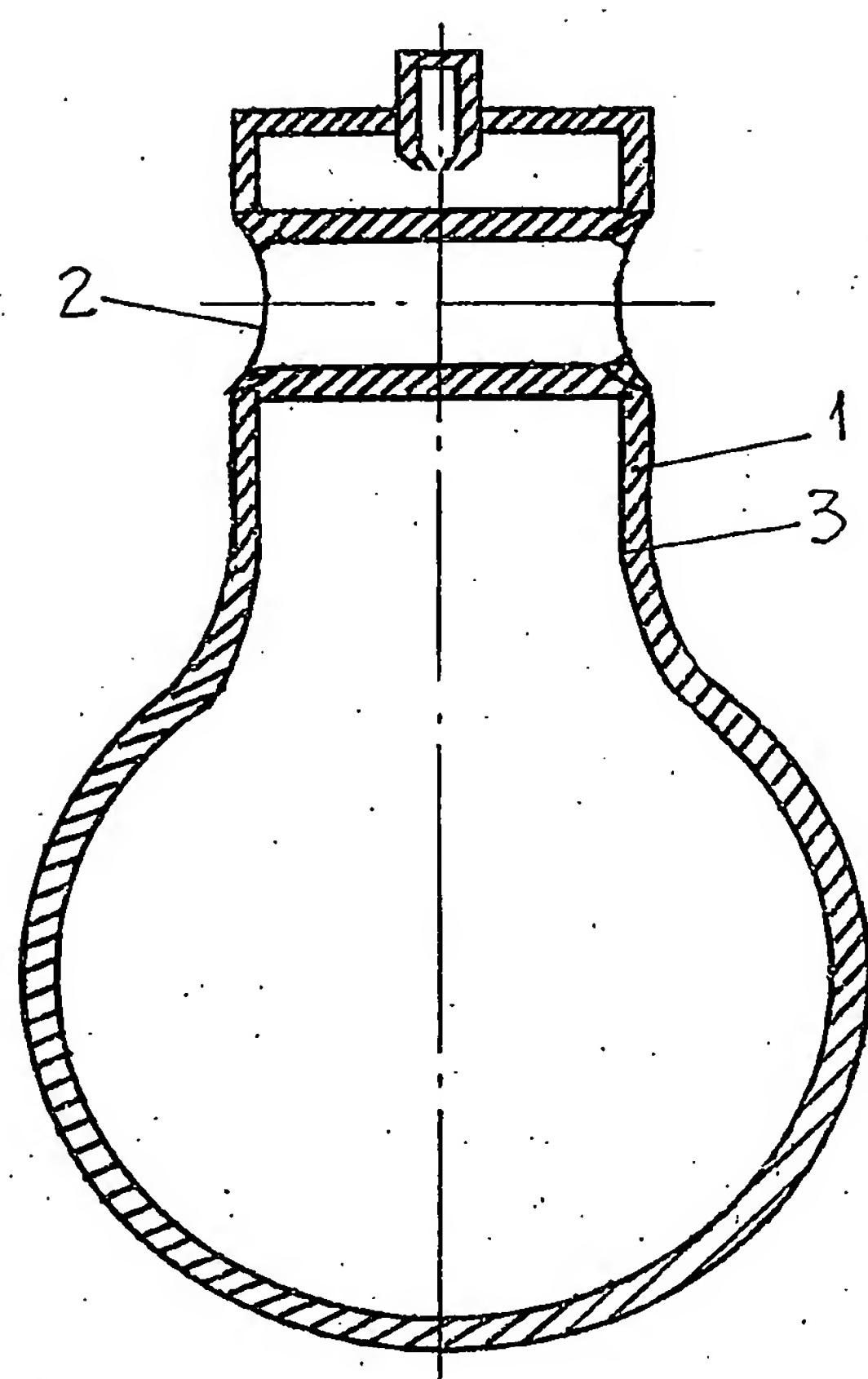


图 2

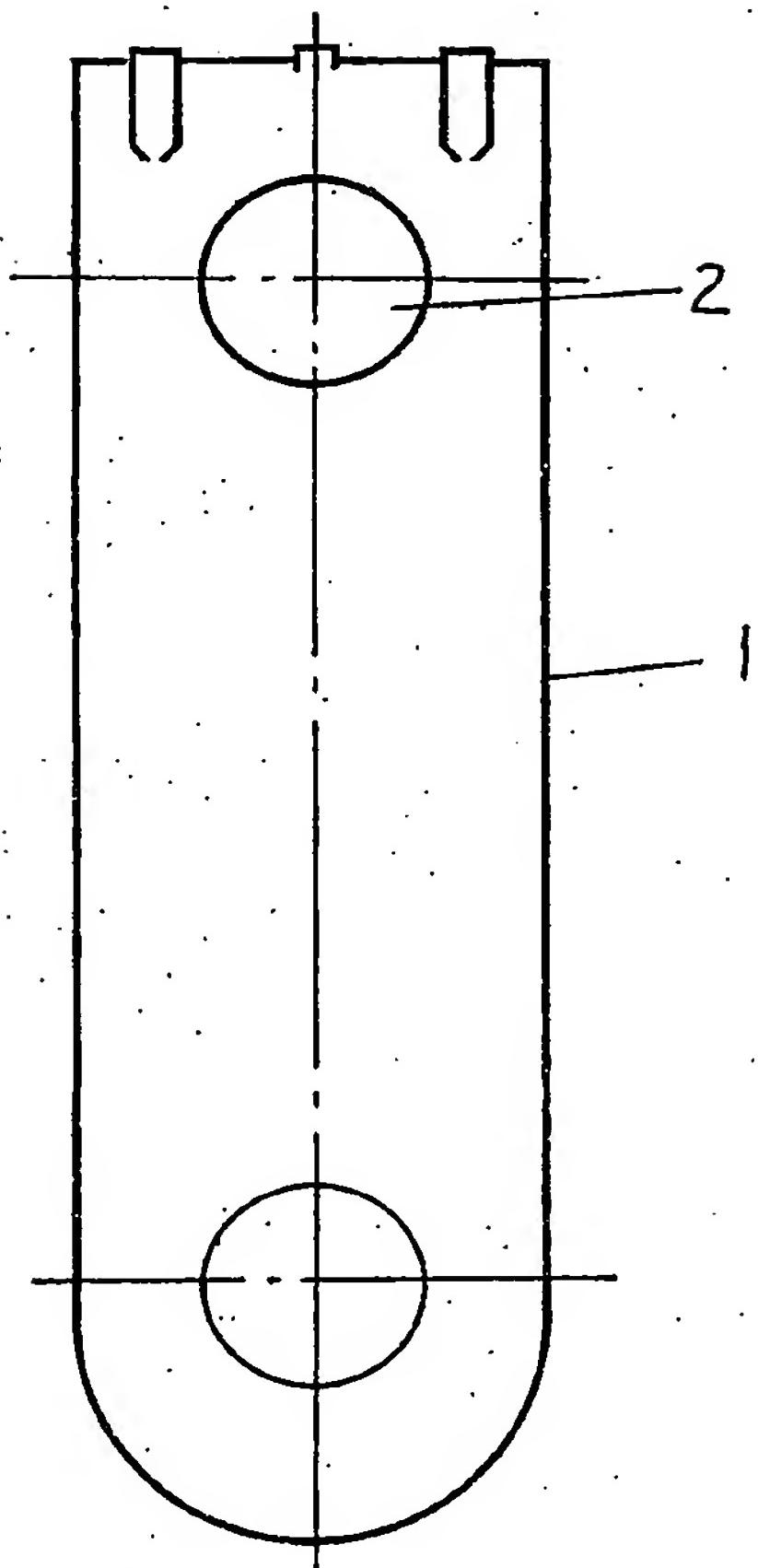


图 3

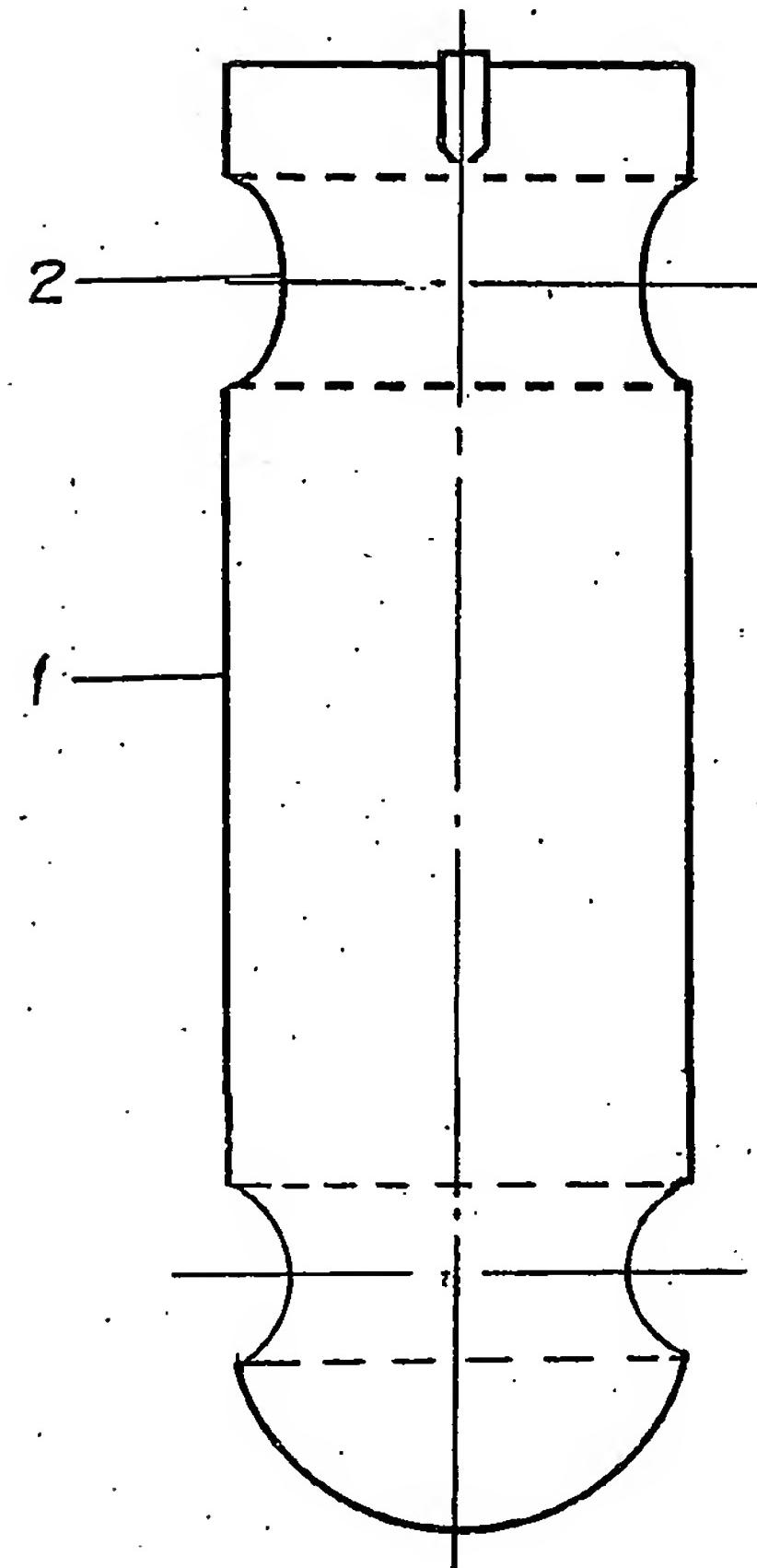


图 4

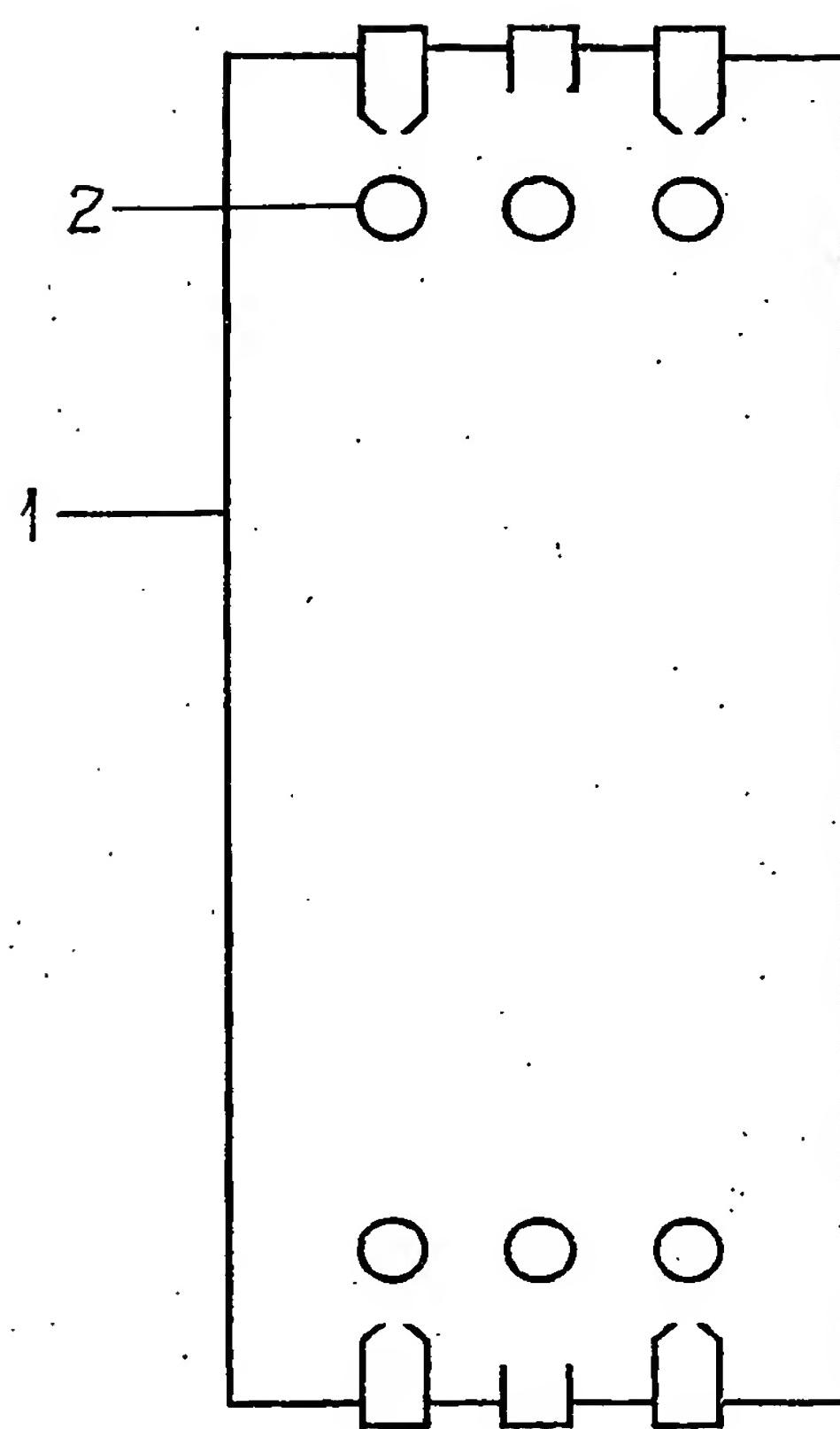


图 5

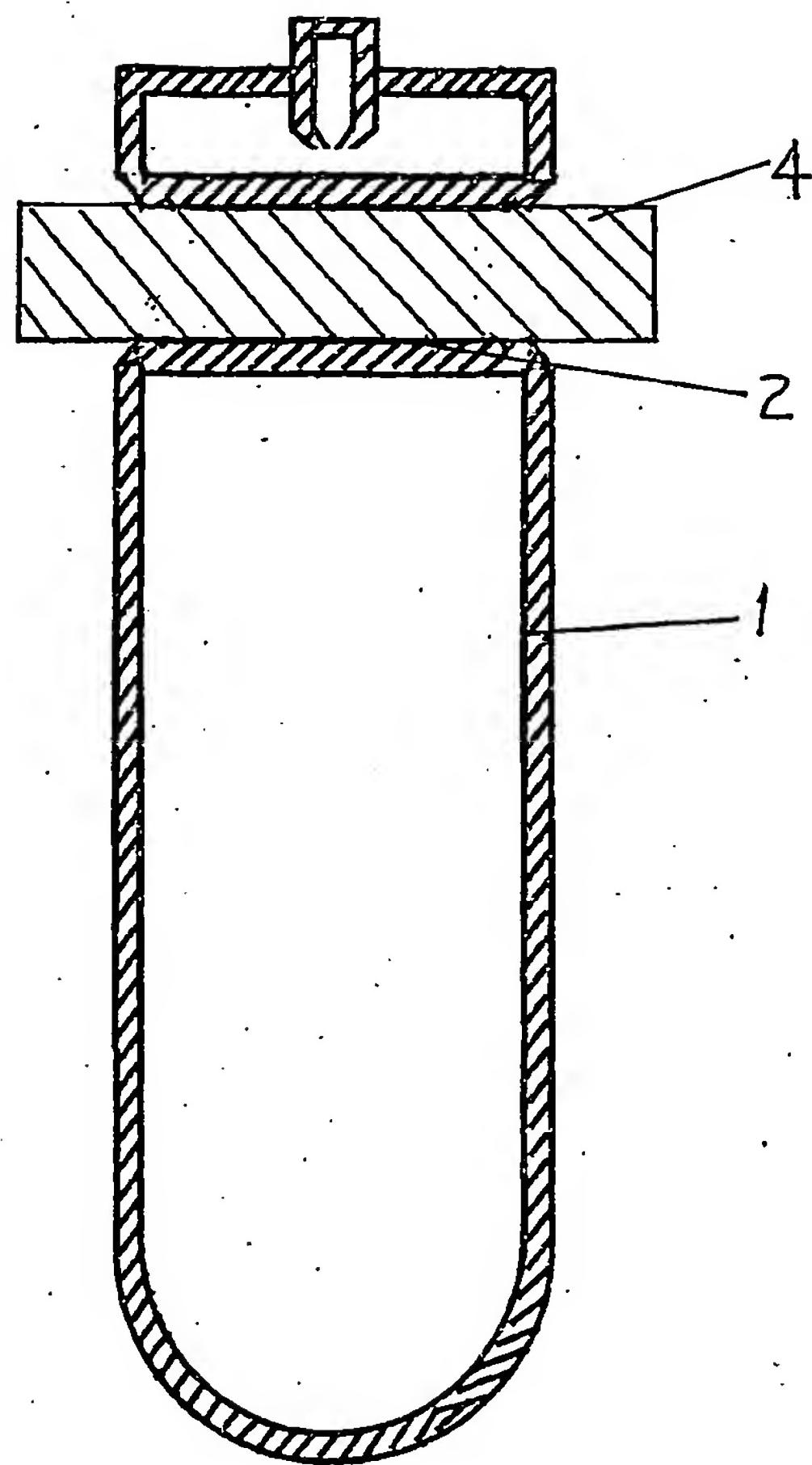


图 6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2005/002257

A. CLASSIFICATION OF SUBJECT MATTER

H01J65/04(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H01J11/00, H01J11/02, H01J65/04, H01J65/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNPAT,CNKI,WPI,EPPODOC,PAJ: MAGNET,MAGNETIC,LAMP,BUBBLE,HOLE,HOLES,APERTURE,APERTURES,

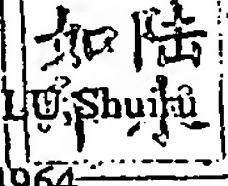
C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	CN1055349C 09.Aug.2000(09.08.2000) see the description: page 3 line 6-page 7 line 6, figure	1-9
Y	CN2297797Y 18.Nov.1998(18.11.1998) see the description: page 2 line 18-page 3 line 5, figure 1	1-9

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim (S) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 27.Feb.2006(27.02.2006)	Date of mailing of the international search report 30 · MAR 2006 (30 · 03 · 2006)
Name and mailing address of the ISA/CN The State Intellectual Property Office, the P.R.China 6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088 Facsimile No. 86-10-62019451	Authorized officer  Telephone No. (86-10)62084964

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2005/002257

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN1055349C	09.08.2000	CN1164755A	12.11.1997
CN2297797Y	18.11.1998	NONE	

国际检索报告

国际申请号

PCT/CN2005/002257

A. 主题的分类

H01J65/04(2006.01)i

按照国际专利分类表(IPC)或者同时按照国家分类和 IPC 两种分类

B. 检索领域

检索的最低限度文献(标明分类系统和分类号)

H01J11/00, H01J11/02, H01J65/04, H01J65/00

包含在检索领域中的除最低限度文献以外的检索文献

在国际检索时查阅的电子数据库(数据库的名称, 和使用的检索词(如使用))

CNPAT,CNKI: 磁,灯,孔,充气,排气,充排气,贡;

WPI,EPODOC,PAJ: MAGNET,MAGNETIC,LAMP,BULB,HOLE,HOLES,APERTURE,APERTURES

C. 相关文件

类 型*	引用文件, 必要时, 指明相关段落	相关的权利要求
Y	CN1055349C 09.08月2000(09.08.2000) 说明书第3页第6行-第7页 第6行, 图	1-9
Y	CN2297797Y 18.11月1998(18.11.1998) 说明书第2页第18行-第3页 第5行, 图1	1-9

 其余文件在 C 栏的续页中列出。 见同族专利附件。

* 引用文件的具体类型:

“A” 认为不特别相关的表示了现有技术一般状态的文件

“E” 在国际申请日的当天或之后公布的在先申请或专利

“L” 可能对优先权要求构成怀疑的文件, 或为确定另一篇引用文件的公布日而引用的或者因其他特殊理由而引用的文件

“O” 涉及口头公开、使用、展览或其他方式公开的文件

“P” 公布日先于国际申请日但迟于所要求的优先权日的文件

“T” 在申请日或优先权日之后公布, 与申请不相抵触, 但为了理解发明之理论或原理的在后文件

“X” 特别相关的文件, 单独考虑该文件, 认定要求保护的发明不是新颖的或不具有创造性

“Y” 特别相关的文件, 当该文件与另一篇或者多篇该类文件结合并且这种结合对于本领域技术人员为显而易见时, 要求保护的发明不具有创造性

“&” 同族专利的文件

国际检索实际完成的日期

27.02月2006(27.02.2006)

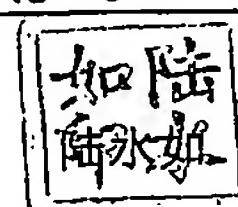
国际检索报告邮寄日期

30·3月2006(30·03·2006)

中华人民共和国国家知识产权局(ISA/CN)
中国北京市海淀区蓟门桥西土城路6号100088

传真号: (86-10)62019451

受权官员



电话号码: (86-10)62084964

国际检索报告
关于同族专利的信息

国际申请号
PCT/CN2005/002257

检索报告中引用的专利文件	公布日期	同族专利	公布日期
CN1055349C	09.08.2000	CN1164755A	12.11.1997
CN2297797Y	18.11.1998	无	

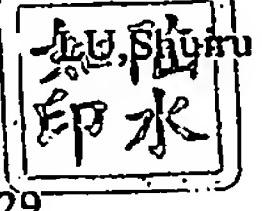
Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 7510163-SUN	FOR FURTHER ACTION		See Form PCT/IPEA/416																
International application No. PCT/CN2005/002257	International filing date (day/month/year) 20 Dec.2005(20.12.2005)	Priority date (day/month/year) 22 Apr.2005(22.04.2005)																	
International Patent Classification (IPC) or national classification and IPC H01J65/04(2006.01)i																			
Applicant Li,Jin																			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANN</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of 4 sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input checked="" type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/> Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/> Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/> Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/> Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/> Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/> Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>				<input checked="" type="checkbox"/> Box No. I	Basis of the report	<input type="checkbox"/> Box No. II	Priority	<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/> Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/> Box No. VI	Certain documents cited	<input type="checkbox"/> Box No. VII	Certain defects in the international application	<input checked="" type="checkbox"/> Box No. VIII	Certain observations on the international application
<input checked="" type="checkbox"/> Box No. I	Basis of the report																		
<input type="checkbox"/> Box No. II	Priority																		
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability																		
<input type="checkbox"/> Box No. IV	Lack of unity of invention																		
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																		
<input type="checkbox"/> Box No. VI	Certain documents cited																		
<input type="checkbox"/> Box No. VII	Certain defects in the international application																		
<input checked="" type="checkbox"/> Box No. VIII	Certain observations on the international application																		
Date of submission of the demand 17 Apr.2006 (17.04.2006)	Date of completion of this report 15 Aug.2007(15.08.2007)																		
Name and mailing address of the IPEA/CN The State Intellectual Property Office, the P.R.China, 6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088 Facsimile No. 86-10-62019451	Authorized officer  Telephone No. 62083429																		

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/CN2005/002257

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- the international application in the language in which it was filed
 a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
 international search (Rules 12.3(a) and 23.1(b))
 publication of the international application (Rule 12.4(a))
 international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

- the international application as originally filed/furnished

- the description:

pages _____ as originally filed/furnished
 pages _____ received by this Authority on _____
 pages _____ received by this Authority on _____

- the claims:

pages _____ as originally filed/furnished
 pages _____ as amended (together with any statement) under Article 19
 pages _____ received by this Authority on _____
 pages _____ received by this Authority on _____

- the drawings:

pages _____ as originally filed/furnished
 pages _____ received by this Authority on _____
 pages _____ received by this Authority on _____

- a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

- the description, pages _____
 the claims, Nos. _____
 the drawings, sheets/figs _____
 the sequence listing (specify): _____
 any table(s) related to sequence listing (specify): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages 1-3 _____
 the claims, Nos. 1-10 _____
 the drawings, sheets/figs _____
 the sequence listing (specify): _____
 any table(s) related to sequence listing (specify): _____

5. This report has been established taking into account the rectification of an obvious mistake authorized by or notified to this Authority under Rule 91(Rule 70.2(e)).

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/CN2005/002257

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement:

Novelty (N)	Claims 1-9	YES
	Claims none	NO
Inventive step (IS)	Claims none	YES
	Claims 1-9	NO
Industrial applicability (IA)	Claims 1-9	YES
	Claims none	NO

2. Citations and explanations (Rule 70.7)

Cited documents: D1: CN1055349C
D2: CN2297797Y

1. Novelty.

1) Claim 1: D1 is regarded as being the closest prior art, and does not explicitly or implicitly disclose the following technical features "the cavum lamp body can be aerated/ deaerated". Thus the claim 1 meets the criteria set out in PCT Article 33(2).

2) Claims 2-9 subjected to the claim 1 meet the criteria set out in PCT Article 33(2) as well.

2. Inventive Step

1) Claim 1: D1 (see the description: page 3 line 6- page 7 line 6, figure 1) discloses the following features: a non-filament closed ring type gas discharge lamp 1, wherein a through hole for mounting a ferrite core 2 is set on its closed cavum lamp body and a fluorescent coating is coated inside the cavum lamp body. The only difference between them is that D1 does not disclose the feature "the cavum lamp body can be aerated/ deaerated". However D2 (see the description: page 2 line 18- page 3 line 5, figure 1) discloses the feature "the cavum lamp body 5 includes an aeration/ deaeration pipe 11", which can solve the same problem as that to be solved by the distinguishing feature. It would be obvious for a skilled person to apply the teaching of D2 to D1 and arrive at the subject-matter of claim 1, without exercising an inventive step. Therefore the subject-matter of claim 1 does not involve an inventive step, and does not meet the criteria set out in PCT Article 33(3).

Answering to the opinions stated by the applicant: (一) The skilled person can't directly arrive at the technique effects mentioned in the opinion statement according to the subject-matter of the claim 1; (二) That "the non-filament fluorescence lamp can be made" mentioned in D1 (see the description: page 3 line 4) proves that a fluorescent coating is necessarily coated inside the cavum lamp body; (三) "Deaeration pipe 11" mentioned in D2 is necessarily a pipe that can be aerated and deaerated. Because of the above-mentioned three points, the examiner can't accept the opinions stated by the applicant.

2) Claims 2-4,9: D2 (figure 1) discloses the additional technical features of the dependent claims 2-4,9: a little glass tube 12 and an aeration/ deaeration pipe 11 communicated with the lamp body cavum 5;

Claims 5-8: their additional technical features are respectively simple changes of the number and location of the through hole and the shape of the lamp body, the skilled person can select them in according with conventional knowledge, without the exercise of inventive skill.

Therefore the subject-matter of claims 2-9 do not involve an inventive step, and do not meet the criteria set out in PCT Article 33(3).

3. Industrial Applicability

The invention of claims 1-9 are industrially applicable in the technical field of the lighting equipment and thus meet the requirements of PCT Article 33(4).

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/CN2005/002257

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

In the invention, instead of the conventional bulb with filament, the fluorescent power inside the magnetic energy bulb is activated by a magnetic body 4 through a through hole 2 on the lamp body to make the magnetic energy bulb illuminate and light, consequently to solve the technical problem of improvement in service life. But the essential technical feature "the magnetic body 4" for solving the technical problem is not mentioned in the claim 1, so the claim 1 is not complied with PCT Article 6.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of Box No. 1, Item No. 4:

Pages 1-3 in the description and claims 1-10 submitted by the applicant according to PCT Article 34 on 17 Apr.2006(17.04.2006) go beyond the disclosure in the international application as filed and fail to meet the requirements of PCT Article 34(2)(b). The detailed reasons are as follows:

1. Claim 1: 1) "magnetic energy generator" is a generic concept not described in the initial international application, it includes the magnet described in the initial description and any other devices that can produce magnetic energy; 2) that "Hg is housed inside the lamp body cavum", for a person skilled in the art, can't be determined unambiguously according to the contents "Hg is housed inside the little glass tube 5" and "the little glass tube 5 extends to the inside of the lamp body cavum" described in the initial description; Therefore the claim 1 goes beyond the disclosure in the international application as filed and fails to meet the requirements of PCT Article 34(2)(b).

2. Claims 2-4: its additional features aren't described in the initial international application, and for a person skilled in the art, can't be determined unambiguously according to the contents described in the initial description. Therefore the claims 2-4 go beyond the disclosure in the international application as filed and fail to meet the requirements of PCT Article 34(2)(b).

3. Claims 5-10 are all the dependent claims subjected to the claim 1. Because the claim 1 goes beyond the disclosure in the international application as filed, claims 5-10 go beyond the disclosure in the international application as filed and fail to meet the requirements of PCT Article 34(2)(b) as well.

4. Besides the above-mentioned, the technique effects " life of the lamp is 16 times longer than that of energy-saving lamp" and " the input power of the lamp can reach 3w~1500w" described in the background art of the description, for a person skilled in the art, can't be determined unambiguously according to the contents " life of the lamp is 16 times longer than that of the fluorescence lamp in the original invention" and " the input power can reach 6w~1500w" described in the initial description. Therefore the description goes beyond the disclosure in the international application as filed and fails to meet the requirements of PCT Article 34(2)(b).

专利合作条约

PCT

专利性国际初步报告

(PCT 第II章)

(PCT 第 36 条和细则 70)

申请人或代理人的档案号 7510163-SUN	关于后续行为 参见 PCT/IPEA/416 表	
国际申请号 PCT/CN2005/002257	国际申请日(日/月/年) 20.12 月 2005 (20.12.2005)	优先权日(日/月/年) 22.4 月 2005 (22.04.2005)
国际专利分类(IPC)或者国家分类和 IPC H01J65/04(2006.01)i		
申请人 李进		

1. 本报告是国际初步审查单位根据条约第 35 条制定的国际初步审查报告，并依照条约第 36 条传送给申请人。

2. 本报告共计 5 页，包括本扉页。

3. 本报告还有附件，包括：

a. (传送给申请人和国际局) 共计 4 页，如下：
 修改后的并且作为本报告基础的说明书修改页、权利要求修改页和/或附图修改页，和/或由本单位许可的更正页(见细则 70.16 和行政规程第 607 条)。
 取代在先页的修改页，本单位认为这些修改页含有的修改超出了国际申请提交时的公开范围，如第 I 栏第 4 项和补充栏所示。

b. (仅传送给国际局) 共计 (指明电子载体的类型和数量) _____，包含有在与序列表有关的补充栏中指明的仅为电子形式的序列表和/或与其相关的表格。(见行政规程第 802 条)

4. 本报告包括关于下列各项标明的内容：

第I栏 报告的基础
 第II栏 优先权
 第III栏 不做出关于新颖性、创造性和工业实用性的意见
 第IV栏 缺乏发明的单一性
 第V栏 按条约第 35 条(2)关于新颖性、创造性或工业实用性的推断性声明；支持这种声明的引证和解释
 第VI条 某些引用的文件
 第VII栏 国际申请中的某些缺陷
 第VIII栏 对国际申请的某些意见

提交要求书的日期 17.4 月 2006 (17.04.2006)	完成本报告的日期 15.8 月 2007 (15.08.2007)
IPEA/CN 的名称和邮寄地址： 中华人民共和国国家知识产权局 中国北京市海淀区蓟门桥西土城路 6 号 100088 传真号：(86-10)62019451	受权官员  电话号码 (86-10)62083429

PCT/IPEA/409 表(扉页) (2007 年 4 月)

第I栏 报告的基础

1. 关于语言, 本报告的制定基于:

- 国际申请提交时使用的语言。
- 该国际申请的_____语言译文, 提供该种语言的译文是为了:
- 国际检索(细则 12.3 (a) 和 23.1 (b))。
 - 国际申请的公布(细则 12.4 (a))。
 - 国际初步审查(细则 55.2 (a) 和/或 55.3 (a))。

2. 关于国际申请中各个部分, 本报告基于(申请人为答复受理局根据条约 14 所发通知而提供的替换页, 在本报告中视为“原始提交”的文件, 不作为本报告的附件)

 原始提交/提供的国际申请。

- 说明书: 第_____页 原始提交/提供的,
第_____页*, _____本单位收到的,
第_____页*, _____本单位收到的。
- 权利要求: 第_____页, 原始提交/提供的,
第_____页*, 按条约 19 条修改的(附有任何声明),
第_____页*, _____本单位收到的,
第_____页*, _____本单位收到的。
- 附图: 第_____页, 原始提交/提供的。
第_____页*, _____本单位收到的,
第_____页*, _____本单位收到的。
- 序列表和/或任何相关表格——见与序列表有关的补充栏。

3. 修改导致以下内容的删除:

- 说明书: 第_____页
- 权利要求: 第_____项
- 附图: 第_____页 / 图_____
- 序列表(具体说明): _____
- 与序列表相关的表格(具体说明): _____

4. 由于本报告附件的(某些)修改, 如下所列, 被认为超出了原始公开的范围, 如补充栏所示, 因此本报告是按照没有修改的情况做出的(细则 70.2(c))。

- 说明书: 第 1-3 页
- 权利要求: 第 1-10 项
- 附图: 第_____页 / 图_____
- 序列表(具体说明): _____
- 与序列表相关的表格(具体说明): _____

5. 本报告考虑了本单位许可的或被通知的根据细则 91 所做出的明显错误更正。(细则 70.2 (e))

*如果第 4 项适用, 一些或全部的文件页可能做出“被取代”标记。

专利性国际初步报告

国际申请号

PCT/CN2005/002257

第V栏 按照条约第35条(2)关于新颖性、创造性或工业实用性的推断性声明：支持这种声明的引证和解释

1. 声明

新颖性(N)

权利要求 1-9

是

权利要求 无

否

创造性(IS)

权利要求 无

是

权利要求 1-9

否

工业实用性(IA)

权利要求 1-9

是

权利要求 无

否

2. 引证和解释（细则70.7）

引证文献：D1：CN1055349C

D2：CN2297797Y

1. 新颖性

1) 权利要求 1: D1 被确定为最接近的现有技术，其没有明确或隐含公开下述技术特征“空腔灯体可以充排气”，因此权利要求 1 具备 PCT 第 33(2) 条规定的新颖性。

2) 从属于权利要求 1 的权利要求 2-9 也具备 PCT 第 33(2) 条规定的新颖性。

2. 创造性

1) 权利要求 1: D1 (参见说明书第 3 页第 6 行至第 7 页第 6 行, 图 1) 公开下述技术特征：一种无灯丝闭合环形气体放电灯 1, 其封闭的空腔灯体上设置有安装铁氧体磁芯 2 的贯穿孔, 且空腔灯体内涂有荧光粉层, 它们之间的唯一区别是 D1 没有提及“空腔灯体可以充排气”，但 D2 (说明书第 2 页第 18 行至第 3 页第 5 行, 图 1) 公开技术特征“空腔灯体 5 具有充排气管 11”，且其在 D2 的作用与此区别技术特征在本申请的作用相同, 本领域技术人员将 D2 的教导应用到 D1 以得到权利要求 1 的技术方案是显而易见的, 因此权利要求 1 不具备 PCT 第 33(3) 条规定的创造性。

对申请人陈述意见的答复：(一) 本领域技术人员不能够根据权利要求 1 的技术方案直接得出申请人在意见陈述书中陈述的技术效果；(二) 对比文件 1 提及的“可用来制造无灯丝的荧光灯”(参见说明书第 3 页第 4 行) 证明空腔灯体内必然涂有荧光粉层；(三) 对比文件 2 提及的“排气管 11”必然是既可充气又可排气的管。根据上述三点, 审查员不能接受申请人的陈述意见。

3) 权利要求 2-4、9: 其附加技术特征已经在 D2 (图 1) 公开：与灯体空腔 5 相通的小玻管 12、充排气管 11;

权利要求 5-8: 其附加技术特征分别是贯穿孔的数量和位置及灯体形状的简单改变, 本领域技术人员不需要创造性的技能即可根据常规知识对其进行选择;

因此权利要求 2-9 不具备 PCT 第 33(3) 条规定的创造性。

3. 工业实用性

权利要求 1-9 在照明器材领域内具有工业实用性, 因此权利要求 1-9 具备 PCT 第 33(4) 条规定的工业实用性。

专利性国际初步报告

国际申请号

PCT/CN2005/002257

第VIII栏 对国际申请的某些意见

就权利要求、说明书和附图的清楚性，或者权利要求是否得到说明书的充分支持提出以下意见：

本申请采用穿过灯体贯穿孔 2 的磁体 4（利用高频磁能电磁谐振原理）激活磁能灯内的荧光粉来使其发光照明以取代传统的带灯丝的灯泡，从而实现本申请解决的技术问题：提高使用寿命，但权利要求 1 没有提及解决技术问题的必要技术特征“磁体 4”，因此权利要求 1 不符合 PCT 第 6 条的规定。

补充栏

当前面的任何一栏地方不够时使用

续第I栏第4项：

申请人根据条约34条于17.4月2006 (17.04.2006) 提交的说明书第1-3页和权利要求第1-10项超出国际申请提出时公开的范围，不符合PCT34(2)(b)。具体理由如下：

1. 权利要求1的1) “磁能发生器”是未在原始国际申请记载的上位概念，其既包括原说明书记载的“磁体”，也包括能够产生磁能的任何其它装置；2) “该灯体的空腔内收容有汞”对所属领域技术人员来说不能够根据原说明书记载的“小玻管5内存放汞，小玻管5延伸到灯体空腔内”毫无疑义的确定；因此权利要求1超出国际申请提出时公开的范围，不符合PCT34(2)(b)。

2. 权利要求2-4的附加技术特征未在原始国际申请记载，所属领域技术人员也不能够根据原说明书记载的内容毫无疑义的确定，因此权利要求2-4超出国际申请提出时公开的范围，不符合PCT34(2)(b)。

3. 权利要求5-10均为权利要求1的从属权利要求，由于权利要求1超出国际申请提出时公开的范围，因此权利要求5-10也超出国际申请提出时公开的范围，不符合PCT34(2)(b)。

4. 说明书除存在上述超范围之外，还存在：背景技术提及的技术效果“灯寿命较节能灯提高16倍”和“灯输入功率可以做到3W~1500W”对所属领域技术人员来说不能够根据原说明书记载的“灯寿命比原发明的荧光灯提高16倍”和“灯输入功率可以做到6W~1500W”毫无困难地确定，因此说明书超出国际申请提出时公开的范围，不符合PCT34(2)(b)。

带有贯穿孔的磁能灯泡

技术领域

本发明涉及照明器材领域，特别涉及一种在中空玻璃灯体上使用的由供电后，通过穿过灯体贯穿孔的磁能发生器所产生的电磁能将荧光粉激活发光照明的带有贯穿孔的磁能灯泡。

背景技术

现有的电源照明灯主要有白炽灯泡和节能灯泡两种，他们都是有一个充气的空腔，在充气的空腔内设置有灯丝，以点燃灯丝发光，使用寿命受到灯丝的限制。如何提高灯泡的使用寿命，灯丝就是最大的障碍。磁能灯利用高频磁能电磁谐振原理，取代了荧光灯电极为主的 LC 串联谐振灯丝、电极预热启动激活荧光粉的发光原理，可以提高荧光灯的发光效率，荧光灯光衰现象几乎可以忽略，发光效率可以提高 20%，灯寿命较节能灯提高 16 倍，节能效率达到 35%~45%，灯输入功率可以做到 3W~1500W。

发明内容

本发明的目的在于避免现有技术的不足之处，提供一种使用寿命长的磁能灯泡，其要解决的技术问题是利用新发明的高频磁能电磁谐振原理，激活磁能灯中的荧光粉使之发光照明，而取代传统带灯丝的灯泡与荧光灯。

本发明的目的是通过以下措施来达到的，提供一种磁能灯泡，其包括封闭的可充排气空腔的灯体、产生高频电磁感应电磁电流与电磁电压的磁能发生器，该灯体上设置有贯穿孔，该磁能发生器贯穿该贯穿孔，该灯体的空腔内涂覆有荧光粉层，该灯体的空腔内收容有汞。

作为本发明磁能灯泡的进一步改进，所述灯体的空腔包括收容腔，所述汞置于该收容腔内，所述灯体上设有玻璃管，该收容腔设于该玻璃管上。

作为本发明磁能灯泡的进一步改进，所述玻璃管的收容腔的开口端内置于该灯体的空腔内，并靠近该磁能发生器产生的磁场中心延伸设置。

作为本发明磁能灯泡的进一步改进，收容于所述收容腔内的汞为固态。

作为本发明磁能灯泡的进一步改进，所述灯体上设置有充排气管。

作为本发明磁能灯泡的进一步改进，所述灯体上设置有一个以上的贯穿孔，所述磁能发生器贯穿对应贯穿孔。

作为本发明磁能灯泡的进一步改进，所述贯穿孔设置在所述灯体的一端。

作为本发明磁能灯泡的进一步改进，所述灯体上设置有一个以上的贯穿孔，所述磁能发生器贯穿对应贯穿孔，该贯穿孔设置在所述灯体的相对两端。

作为本发明磁能灯泡的进一步改进，所述灯体是圆形、扁圆形、长方形、圆柱形、椭圆形、平板形、环形或管柱形；所述贯穿孔是圆形、扁圆形、长方形或多边形。

作为本发明磁能灯泡的进一步改进，所述磁能发生器包括对应贯穿所述贯穿孔的电磁感应磁体。

本发明与现有技术相比本发明磁能灯泡的结构简单，使用方便，加工容易，成本低，电磁感应效率明显地提高了2~4倍；而且无须电极、灯丝、启辉器等元件，低压启动，因此不易因元件失效或高压导致元件失效而报废，使用寿命较长。此外，本发明磁能灯泡通过磁能发生器产生高频电磁感应电流与电磁电压直接使得灯体的空腔内的汞电离，而激活荧光粉层发光，因此本发明磁能灯泡不仅在电压低的时候容易启动，而且启动时间短，可达到瞬间激活荧光粉发光照明的效果。

附图说明

图1是本发明的磁能灯泡具体实施例结构之一的示意图。

图2是图1的侧视剖面结构示意图。

图3是本发明的磁能灯泡具体实施例结构之二的示意图。

图4是图3的侧视结构示意图。

图5是本发明的磁能灯泡具体实施例结构之三的示意图。

图6是本发明的磁能灯泡磁体从贯穿孔中穿过灯体的结构示意图。

具体实施方式

下面结合附图对本发明作进一步说明。

如图1、图2所示，本发明的磁能灯泡具有一个封闭的充排气空腔灯体1，在灯体1上设置有一个贯穿孔2，在空腔灯体1内涂覆有一层荧光粉3，贯穿孔设置于灯体的一端。在使用时，电磁感应磁体从贯穿孔2中穿过灯体，利用高频磁能电磁谐振原理使灯泡发光，取代了灯丝。

本发明在灯体1上设置有两个小玻管5，小玻管5延伸到灯体1内与灯体空腔相通，在灯体1上设置有充排气管6，小玻管5内存放汞，小玻管5延伸到灯体空腔内；充排气管6用来从空腔灯体内充排气。

如图3、图4所示为本发明的磁能灯泡具体实施例结构之二的示意图，在该实施例结构之二的一个封闭的充排气空腔灯体1，灯体上设置有2个贯穿孔2，在灯体空腔内涂覆有荧光粉，贯穿孔设置于灯体的两端，在灯体的两端各有一个贯穿孔。

如图5所示是本发明的磁能灯泡具体实施例结构之三的示意图。它是一个封闭的充排气空腔灯体1，在灯体上设置有6个贯穿孔2，在灯体空腔内涂覆有荧光粉，贯穿孔设置于灯体的两端，在灯体的两端各有3个贯穿孔。

如图6所示是本发明的磁能灯泡磁体从贯穿孔中穿过灯体的结构示意图。它是一个封闭的充排气空腔灯体1，在灯体上设置有1个贯穿孔2，在灯体空腔内涂覆有荧光粉，磁体4从贯穿孔中穿过灯体，利用高频磁能电磁谐振原理，取代了灯丝。

本发明在使用时，磁体4从贯穿孔2中穿过灯体1，磁能灯利用高频磁能电磁谐振原理取代灯丝，可以提高荧光灯光效，荧光灯光衰现象几乎可以忽略，发光效率可以提高20%，灯寿命提高16倍，节能效率达到35%~45%，灯输入功率可以做到6W~1500W。

本发明的贯穿孔2可以设置在灯体的一端，在灯体的一端有一个以上贯穿孔。贯穿孔也可以设置在灯体的两端，在灯体的两端有一个以上贯穿孔。

本发明磁能灯泡可以是圆形、扁圆形、长方形、圆柱形、椭圆形、平板形、环形、管柱形的，或是异型的；本发明的贯穿孔可以是圆形、扁圆形、长方形，多边形或是异形的。

权 利 要 求

1. 一种磁能灯泡，其特征是：包括封闭的可充排气空腔的灯体、产生高频电磁感应电磁电流与电磁电压的磁能发生器，该灯体上设置有贯穿孔，该磁能发生器贯穿该贯穿孔，该灯体的空腔内涂覆有荧光粉层，该灯体的空腔内收容有汞。
2. 根据权利要求 1 所述的磁能灯泡，其特征是：所述灯体的空腔包括收容腔，所述汞置于该收容腔内，所述灯体上设有玻璃管，该收容腔设于该玻璃管上。
3. 根据权利要求 2 所述的磁能灯泡，其特征是：所述玻璃管的收容腔的开口端内置于该灯体的空腔内，并靠近该磁能发生器产生的磁场中心延伸设置。
4. 根据权利要求 3 所述的磁能灯泡，其特征是：收容于所述收容腔内的汞为固态。
5. 根据权利要求 1 所述的磁能灯泡，其特征是：所述灯体上设置有充排气管。
6. 根据权利要求 1 所述的磁能灯泡，其特征是：所述灯体上设置有一个以上的贯穿孔，所述磁能发生器贯穿对应贯穿孔。
7. 根据权利要求 1 至 6 中任一项所述的磁能灯泡，其特征是：所述贯穿孔设置在所述灯体的一端。
8. 根据权利要求 1 至 5 中任一项所述的磁能灯泡，其特征是：所述灯体上设置有一个以上的贯穿孔，所述磁能发生器贯穿对应贯穿孔，该贯穿孔设置在所述灯体的相对两端。
9. 根据权利要求 1 至 6 中任一项所述的磁能灯泡，其特征是：所述灯体是圆形、扁圆形、长方形、圆柱形、椭圆形、平板形、环形或管柱形；所述贯穿孔是圆形、扁圆形、长方形或多边形。
10. 根据权利要求 1 至 6 中任一项所述的磁能灯泡，其特征是：所述磁能发生器包括对应贯穿所述贯穿孔的电磁感应磁体。

专利合作条约

发信人：国际检索单位

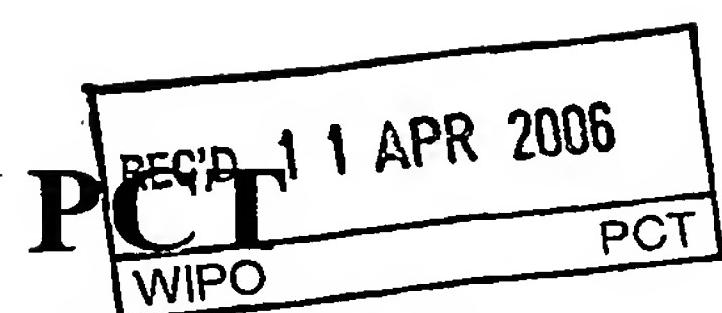
收信人：

518031

中国广东省深圳市上步中路 1001 号科技大厦裙楼 1 楼

深圳市中知专利商标代理有限公司

孙皓，林虹



国际检索单位书面意见

(PCT 细则 43 之二 .1)

发文日(日/月/年)

30 · 3月 2006 (30 · 03 · 2006)

后续行为

见下面第 2 段

申请人或代理人的档案号

7510163-SUN

国际申请号

PCT/CN2005/002257

国际申请日(日/月/年)

20.12 月 2005(20.12.2005)

优先权日(日/月/年)

22.04 月 2005(22.04.2005)

国际专利分类(IPC)或国家分类和 IPC 两种分类

H01J65/04 (2006.01) i

申请人

李进

1. 本意见包括关于下列各项的内容：

- I 意见的基础
- II 优先权
- III 不作出关于新颖性、创造性和工业实用性的意见
- IV 缺乏发明的单一性
- V 按照细则 43 之二.1(a)(i) 关于新颖性、创造性和工业实用性的意见；支持这种意见的引证和解释
- VI 引用的某些文件
- VII 国际申请中的某些缺陷
- VIII 对国际申请的某些意见

2. 后续行为

如果提出初步审查要求书，本次意见将被视为国际初步审查单位(IPEA)的一次书面意见（如果申请人选择的国际初步审查单位非本单位，而且所选国际初步审查单位已按照细则 66.1 之二(b)通知国际局将不考虑国际检索单位的书面意见时例外）。

如本书面意见被视为国际初步审查单位的书面意见，则请申请人在自 PCT/ISA/220 发文之日起 3 个月或自优先权日起 22 个月内（以后届满者为准）向国际初步审查单位提交书面答复并提交修改（如适用），详情见 PCT/ISA/220 表格。

3. 详细信息请见 PCT/ISA/220 表格的说明

中华人民共和国国家知识产权局 (ISA/CN) 中国北京市海淀区蓟门桥西土城路 6 号 100088 传真号：(86-10)62019451	完成本意见的日期 27.02 月 2006 (27.02.2006)	受权官员 电话号码：(86-10)62084964
---	---------------------------------------	----------------------------------

I. 意见的基础

1、关于语言，制定书面意见基于：

申请提出时使用的语言。

该申请的_____语言译文，为了国际检索的目的提供该种语言的译文(细则 12.3(a)和 23.1(b))。

2、关于国际申请中所公开的核苷酸和/或氨基酸序列表和对所称发明的必要性，该书面意见是在下列基础上制定的：

a. 材料的类型

序列表

与序列表相关的表格

b. 材料的形式

纸件形式

电子形式

c. 提交/提供时间

包括于已提交的国际申请。

以电子形式与国际申请一起提交。

为检索之用随后提交本国际检索单位。

3、 另外，在提交/提供了多个核苷酸和/或氨基酸序列表和/或与其相关的表格的版本或副本的情况下，提供了关于后提交的或附加的副本与已提交的国际申请中的序列表相同或未超出国际申请中序列表范围（如适用）的声明。

4. 补充意见

V. 按细则 43 之二.1 关于新颖性、创造性或工业实用性的意见：支持这种意见的引证和解释

1. 意见

新颖性(N)	权利要求 <u>1-9</u>	是
	权利要求 <u>无</u>	否
创造性(IS)	权利要求 <u>无</u>	是
	权利要求 <u>1-9</u>	否
工业实用性(IA)	权利要求 <u>1-9</u>	是
	权利要求 <u>无</u>	否

2. 引证和解释

引证文件：D1: CN1055349C;
D2: CN2297797Y;

1. 新颖性

D1、D2 均没有公开权利要求 1—9 要求保护的技术方案，因此权利要求 1—9 具备 PCT 第 33(2) 规定的新颖性。

2. 创造性

1) 权利要求 1: D1 是最相关的现有技术，其（说明书第 3 页第 6 行至第 7 页第 6 行，图）公开下述技术特征：一种无灯丝闭合环形气体放电灯 1，其封闭的空腔灯体上设置有安装铁氧体磁芯 2 的贯穿孔，且空腔灯体内涂有荧光粉层，由此可见 D1 已经公开权利要求 1 的大部分技术特征，其区别技术特征是 D1 没有提及空腔灯体可以充排气，但这已经在 D2（说明书第 2 页第 18 行至第 3 页第 5 行，图 1）公开：空腔灯体 5 具有充排气管 11，且其在 D2 的作用与此区别技术特征在本申请的作用相同，因此对本领域技术人员来说将 D1、D2 结合起来得到权利要求 1 的技术方案不具备 PCT 第 33(3) 条规定的创造性。

2) 权利要求 2—4、9 的附加技术特征已经在 D2（图 1）公开：与灯体空腔 5 相通的小玻管 12、充排气管 11；

权利要求 5—8 的附加技术特征分别是贯穿孔的数量和位置及灯体形状的简单改变，这些对本领域技术人员来说很容易想到，不需要付出创造性的劳动；

因此权利要求 2—9 不具备 PCT 第 33(3) 条规定的创造性。

3. 实用性

权利要求 1—9 具备 PCT 第 33(4) 条规定的实用性，因为权利要求 1—9 所述的磁能灯泡能够在工业中制造和使用。

国际检索单位书面意见

国际申请号

PCT/CN2005/002257

VIII. 对国际申请的某些意见

就权利要求、说明书和附图的清楚性或者就权利要求是否得到说明书的充分支持提出以下意见：

本申请采用穿过灯体贯穿孔 2 的磁体 4（利用高频磁能电磁谐振原理）激活磁能灯内的荧光粉来使其发光照明以取代传统的带灯丝的灯泡，从而实现本申请解决的技术问题：提高使用寿命，但权利要求 1 没有提及解决技术问题的必要技术特征“磁体 4”，因此权利要求 1 不符合 PCT 第 6 条的规定。

Translation

From the
INTERNATIONAL SEARCHING AUTHORITY

PATENT COOPERATION TREATY

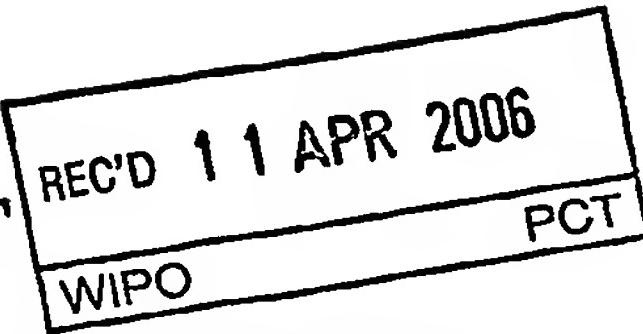
To:

518031

1/F, Shenzhen Science & Technology Building, 1001 Shangbu
Zhong Road, Shenzhen, Guang Dong, P. R. China
SHENZHEN ZHONGZHI PATENT & TRADEMARK AGENT
CO., LTD.

SUN, Hao LIN, Hong

PCT



WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43 bis.1)

Date of mailing
(day/month/year) MAR 2006 (30 · 03 · 2006)

Applicant's or agent's file reference
7510163-SUN

FOR FURTHER ACTION

see paragraph 2 below

International application No. PCT/CN2005/002257	International filing date (day/month/year) 20.Dec.2005(20.12.2005)	Priority date (day/month/year) 22.Apr.2005(22.04.2005)
--	---	---

International Patent Classification (IPC) or both national classification and IPC
H01J65/04(2006.01)i

Applicant

LI, Jin

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i)with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPBA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPBA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/CN
The State Intellectual Property Office, the
P.R.China 6 Xitucheng Rd., Jimen Bridge,
Haidian District, Beijing, China 100088
Facsimile No. 86-10-62019451

Date of completion of this opinion
27.Feb.2006(27.02.2006)

Authorized officer

LU, Shunru

Telephone No. (86-10)62084964

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/CN2005/002257

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of:

- the international application in the language in which it was filed
 a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- a sequence listing
 table(s) related to the sequence listing

b. format of material

- on paper
 in electronic form

c. time of filing/furnishing

- contained in the international application as filed
 filed together with the international application in electronic form
 furnished subsequently to this Authority for the purposes of search

3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/CN2005/002257

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement:

Novelty (N)	Claims 1-9	YES
	Claims NONE	NO
Inventive step (IS)	Claims NONE	YES
	Claims 1-9	NO
Industrial applicability (IA)	Claims 1-9	YES
	Claims NONE	NO

2. Citations and explanations

Documents of particular relevance cited in the International Search Report:

D1: CN1055349C; D2: CN2297797Y1.

1. Novelty

The subject-matter of the claims 1-9 are not disclosed in D1,D2, so the claims 1-9 are novel under PCT Article 33(2).

2. Inventive Step

1) Claim 1: D1 is considered as the most relevant state of the art and discloses(see the description: page 3 line 6- page 7 line 6, figure) the following features: a non-filament closed ring type gas discharge lamp 1, which is set a through hole for mounting a ferrite core 2 on its closed cavum lamp body and coated a fluorescent coating inside the cavum lamp body. Thus it can be seen that D1 has already disclosed the most features of the claim 1, and their difference is that D1 does not disclose the cavum lamp body can be aerated/ deaerated. But D2 (see the description: page 2 line 18- page 3 line 5, figure 1) has already disclosed the said feature: the cavum lamp body 5 includes an aeration/ deaeration pipe 11, which can solve the same problem as that to be really solved by the present invention. So the subject-matter of the independent claim 1 obtained by combination of D1,D2, to the skilled persons in the art, is not considered to involve an inventive step under PCT Article 33(3).

2) The additional features of the dependent claims 2-4,9 are already disclosed in D2(Fig.1): a little glass tube 12 and an aeration/ deaeration pipe 11 communicated with the lamp body cavum 5;

The additional features of the dependent claims 5-8 are respectively simple changes of the number and location of the through hole and the shape of the lamp body, but, to the skilled persons in the art, these should be easily excogitative and not required of the creative work. So the claims 2-9 are not considered to involve an inventive step under PCT Article 33(3).

3. Industrial Applicability

The claims 1-9 are industrially applicable under PCT Article 33(4) because the magnetic energy bulb in claims 1-9 can be made and used in the industry.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/CN2005/002257

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

In the invention, instead of the conventional bulb with filament, the fluorescent power inside the magnetic energy bulb is activated by a magnetic body 4 through a through hole 2 on the lamp body to make the magnetic energy bulb illuminate and light, consequently to solve the technical problem of improvement in service life. But the essential technical feature "the magnetic body 4" for solving the technical problem is not mentioned in the claim 1, so the claim 1 is not complied with PCT Article 6.